

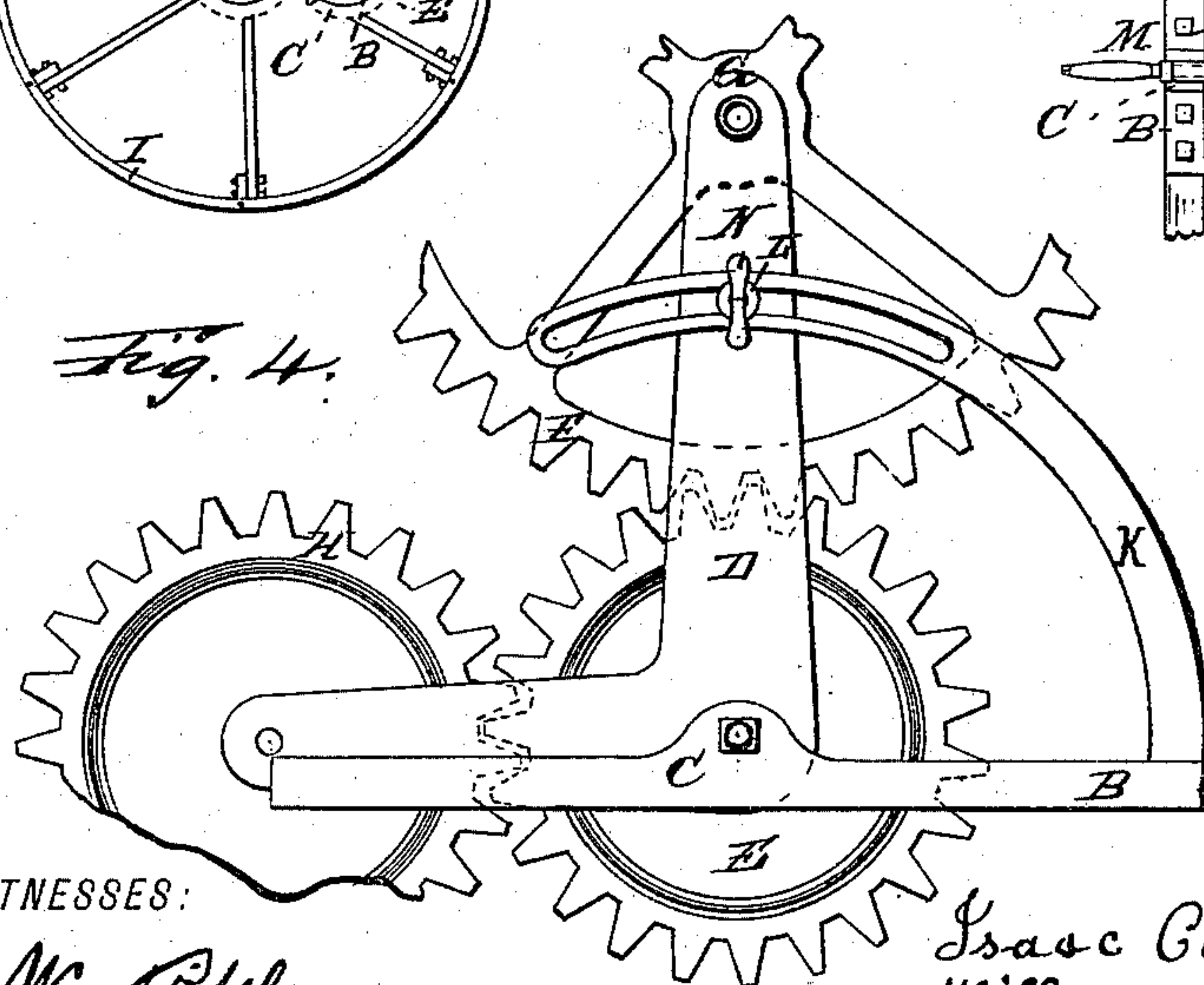
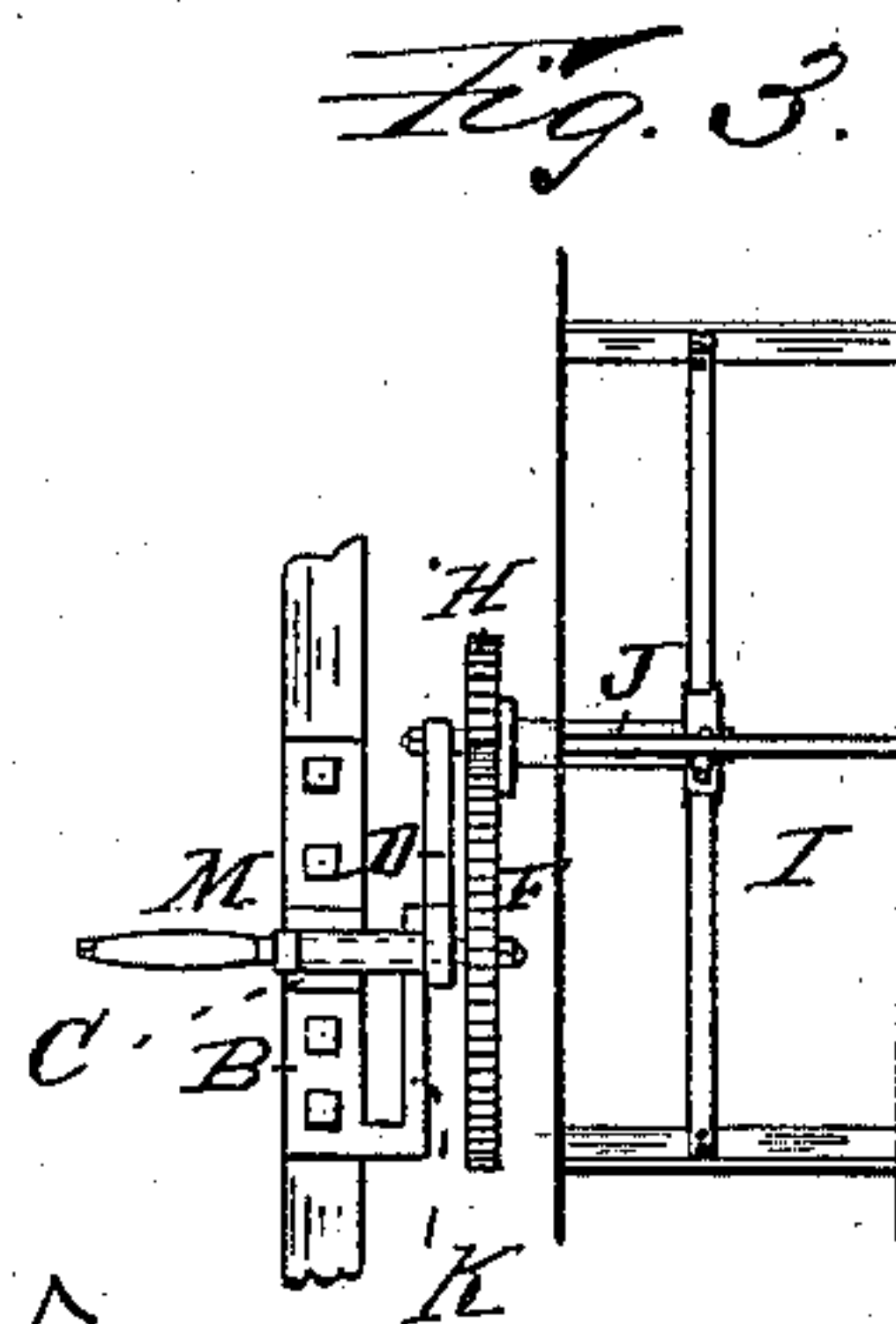
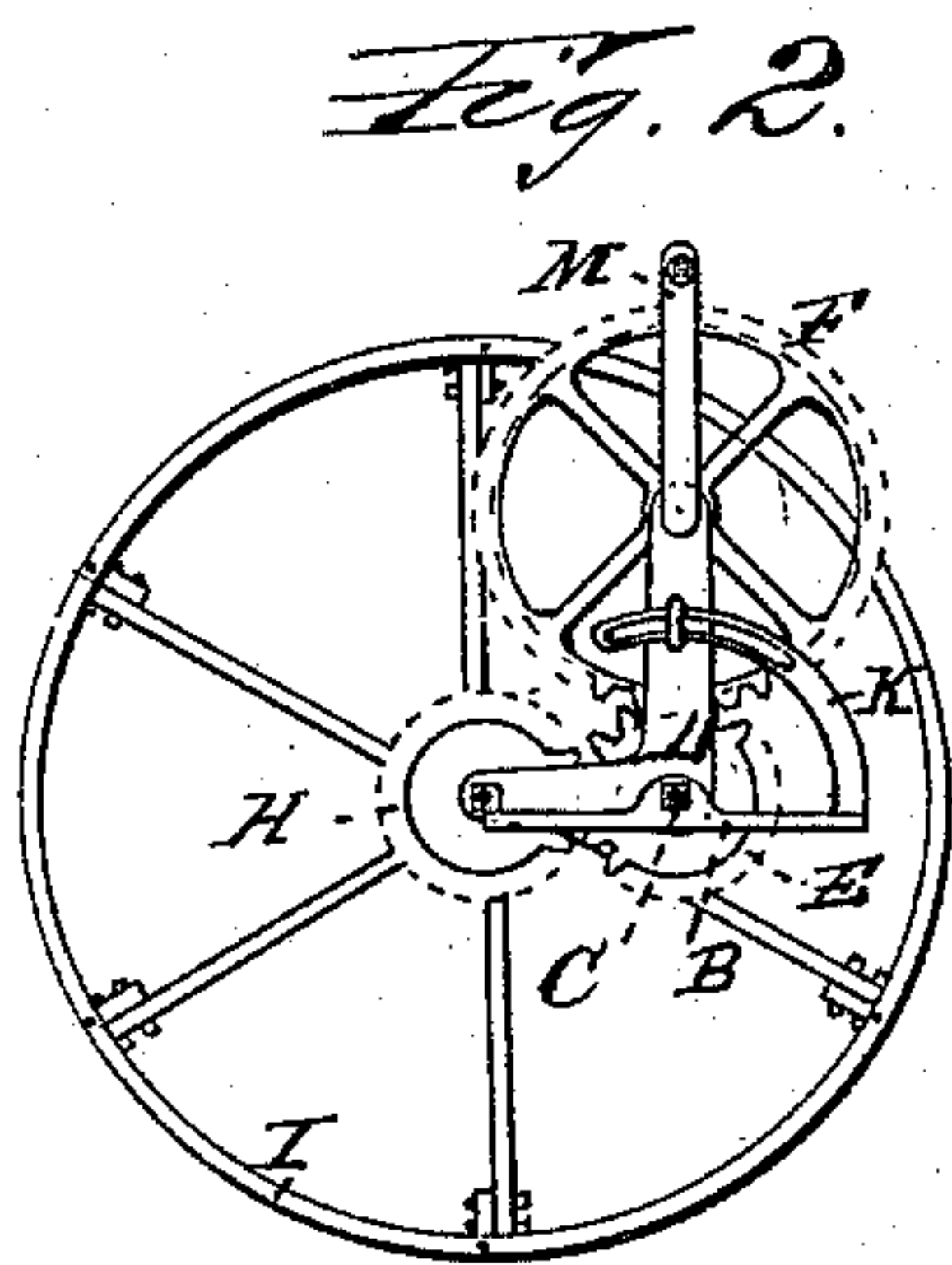
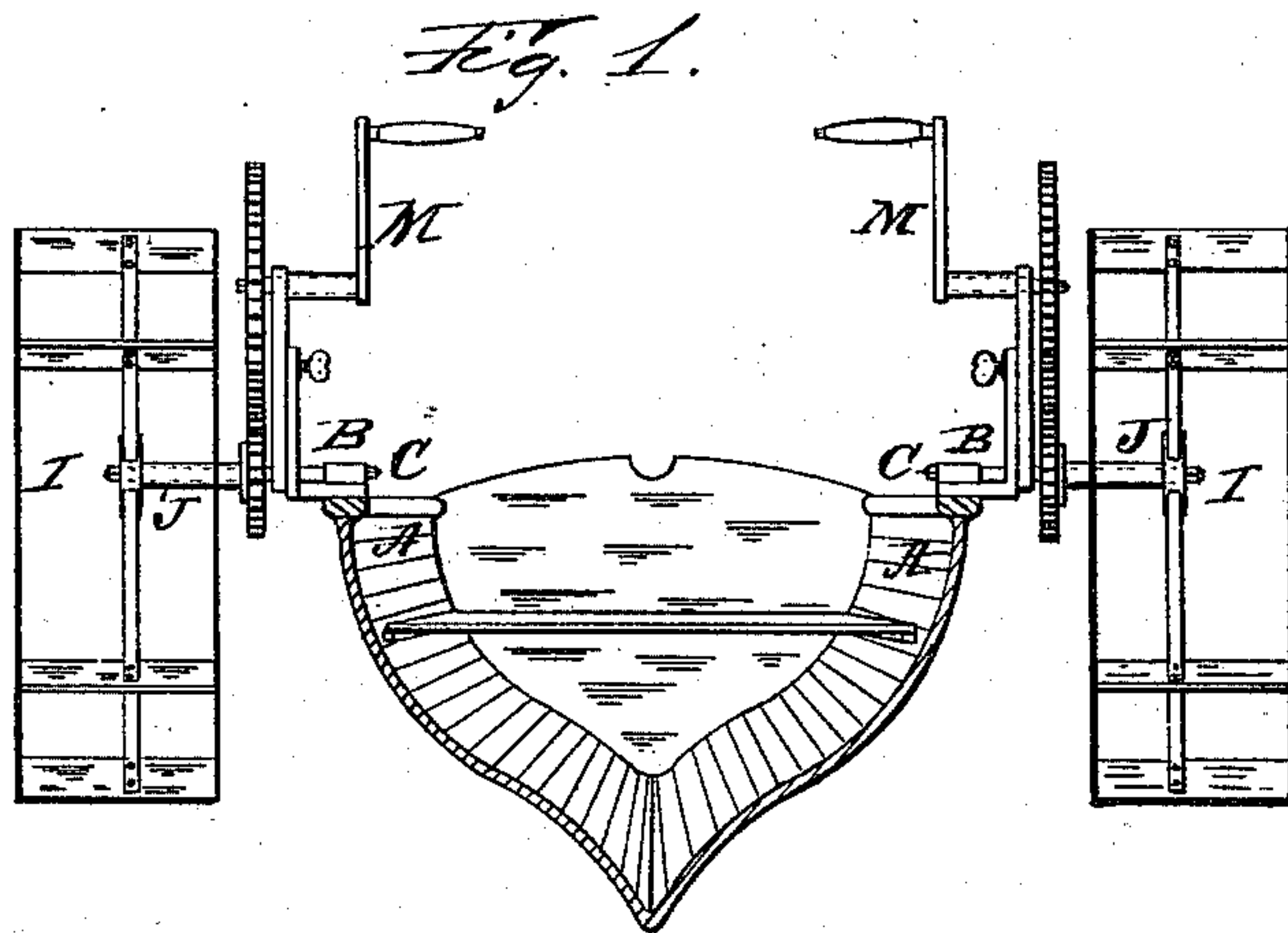
(No Model.)

I. C. MONROE & W. H. H. SISUM.

PADDLE WHEEL BOAT.

No. 383,897.

Patented June 5, 1888.



WITNESSES:

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ISAAC CURTIS MONROE AND WILLIAM H. H. SISUM, OF BROOKLYN, NEW YORK; SAID SISUM ASSIGNOR TO SAID MONROE.

PADDLE-WHEEL BOAT.

SPECIFICATION forming part of Letters Patent No. 383,897, dated June 5, 1888.

Application filed October 24, 1887. Serial No. 253,221. (No model.)

To all whom it may concern:

Be it known that we, ISAAC CURTIS MONROE and WILLIAM H. H. SISUM, both of Brooklyn, county of Kings, State of New York, have invented a new and useful Improvement in Paddle-Wheel Boats, which is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a section of a boat, showing the paddle-wheels in elevation; Fig. 2, a side view of the paddle-wheels and gearing detached from the boat; Fig. 3, a top view of the same; Fig. 4, an enlarged view of the gearing and mechanism for raising and lowering the paddle-wheels.

The object of our invention is to lighten the labor of propulsion by so equalizing the dip of the paddles relatively to the load borne as to secure the greatest efficiency with the least expenditure of force. This is accomplished by mechanical provisions to readily raise and lower the paddle-wheels at will and secure them in their changed positions as to the hull of the boat and the water, as follows:

On the gunwales of each side of hull A is belted iron frame-piece B, to which, by bolt C, is secured bell-crank D, which is also the shaft of wheel E. The teeth of wheel E gear into the teeth of wheel F, of which bolt G is the pivot, at one end of bell-crank D, and the teeth of wheel H at the other end of bell-crank D, to which wheel H paddle-wheel I is secured on axle J. From one end of frame-piece B curved arm K, slotted at its extremity, extends up and beyond the upper arm of bell-crank D. Through its slot and said arm passes bolt L, with securing thumb-screw N on the inside thereof. Crank M is connected to wheel F at its center.

The action of this propelling apparatus is this: The boatman, facing toward the bow, turns crank M, revolving wheel F, geared into wheel E, geared in its turn into wheel H, in the center of which bolt J is the axis of pad-

dle-wheel I. Consequently they all rotate on axis J. If the boat is deep in the water and the dip of the paddles too great, causing undue exertion to move them, thumb-screw N is loosened and the upright arm of bell-crank D extended backward toward the stern, lifting the horizontal end of bell crank D and wheel H thereon, whereby paddle-wheel I is also elevated and the paddles submerged so much the less. Tightening thumb-screw N secures the desired relative positions of bell-crank D and wheel F to each other so attained. If, upon the other hand, the boat rides too lightly from want of load or being in a seaway, the vertical arm of bell-crank D is extended forward and the reverse action and effect upon the paddles is effected to that previously explained.

An incident of convenience to this arrangement of devices for boat-propulsion is, that no rudder or steering apparatus is required. Each paddle wheel having a shaft of its own, either wheel may be stopped at will, while the continuing revolution of the other determines the direction in which the boat heads.

It is obvious by omitting gear-wheel E and directly connecting wheels F and H the result would be attained; but the boatman would sit facing the stern.

What we claim, and desire to secure by Letters Patent, is—

In combination, the hull of a boat having a slotted curved arm supporting frame-piece affixed thereto, with a bell-crank and paddle-wheels connected therewith by intervening gear-wheels and bolts, constructed and operating substantially as and for the purpose hereinbefore set forth.

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Witnesses:

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